IFWO

RAW SEQUENCE LISTING   DATE: 08/31/2004

PATENT APPLICATION: US/10/749,104   TIME: 15:46:39

Input Set : **A:\PTO.LM.txt**

Output Set: **N:\CRF4\08312004\J749104.raw**

```
    5 <110> APPLICANT: Shen Zhen Tsinghua Yuanxing Bio-Pharm Science & Technology Co., Ltd.
    9 <120> TITLE OF INVENTION: Anti-Tumor Molecular Vaccine and Method of making thereof
   13 <130> FILE REFERENCE: CGCNS31755
C-->17 <140> CURRENT APPLICATION NUMBER: US/10/749,104
C-->17 <141> CURRENT FILING DATE: 2003-12-29
   17 <150> PRIOR APPLICATION NUMBER: CN02159602.6
   18 <151> PRIOR FILING DATE: 2002-12-27
   20 <160> NUMBER OF SEQ ID NOS: 27
   24 <170> SOFTWARE: PatentIn version 3.1
   28 <210> SEQ ID NO: 1
   30 <211> LENGTH: 3633
   32 <212> TYPE: DNA
   34 <213> ORGANISM: EE(homo sapiens)
   38 <220> FEATURE:
   40 <221> NAME/KEY: CDS
   42 <222> LOCATION: (1)..(3630)
   44 <223> OTHER INFORMATION:
W-->48 <400> 1
   49 atg cga ccc tcc ggg acg gcc ggg gca gcg ctc ctg gcg ctg ctg gct     48
   50 Met Arg Pro Ser Gly Thr Ala Gly Ala Ala Leu Leu Ala Leu Leu Ala
   51 1               5                   10                  15
   53 gcg ctc tgc ccg gcg agt cgg gct ctg gag gaa aag aaa gtt tgc caa     96
   54 Ala Leu Cys Pro Ala Ser Arg Ala Leu Glu Glu Lys Lys Val Cys Gln
   55              20                  25                  30
   57 ggc acg agt aac aag ctc acg cag ttg ggc act ttt gaa gat cat ttt    144
   58 Gly Thr Ser Asn Lys Leu Thr Gln Leu Gly Thr Phe Glu Asp His Phe
   59          35                  40                  45
   61 ctc agc ctc cag agg atg ttc aat aac tgt gag gtg gtc ctt ggg aat    192
   62 Leu Ser Leu Gln Arg Met Phe Asn Asn Cys Glu Val Val Leu Gly Asn
   63      50                  55                  60
   65 ttg gaa att acc tat gtg cag agg aat tat gat ctt tcc ttc tta aag    240
   66 Leu Glu Ile Thr Tyr Val Gln Arg Asn Tyr Asp Leu Ser Phe Leu Lys
   67 65                  70                  75                  80
   69 acc atc cag gag gtg gct ggt tat gtc ctc att gcc ctc aac aca gtg    288
   70 Thr Ile Gln Glu Val Ala Gly Tyr Val Leu Ile Ala Leu Asn Thr Val
   71                  85                  90                  95
   73 gag cga att cct ttg gaa aac ctg cag atc atc aga gga aat atg tac    336
   74 Glu Arg Ile Pro Leu Glu Asn Leu Gln Ile Ile Arg Gly Asn Met Tyr
   75              100                 105                 110
   77 tac gaa aat tcc tat gcc tta gca gtc tta tct aac tat gat gca aat    384
   78 Tyr Glu Asn Ser Tyr Ala Leu Ala Val Leu Ser Asn Tyr Asp Ala Asn
   79              115                 120                 125
   81 aaa acc gga ctg aag gag ctg ccc atg aga aat tta cag gaa atc ctg    432
```

RAW SEQUENCE LISTING   DATE: 08/31/2004
PATENT APPLICATION: US/10/749,104   TIME: 15:46:39

Input Set : A:\PTO.LM.txt
Output Set: N:\CRF4\08312004\J749104.raw

```
 82 Lys Thr Gly Leu Lys Glu Leu Pro Met Arg Asn Leu Gln Glu Ile Leu
 83     130             135                 140
 85 cat ggc gcc gtg cgg ttc agc aac aac cct gcc ctg tgc aac gtg gag      480
 86 His Gly Ala Val Arg Phe Ser Asn Asn Pro Ala Leu Cys Asn Val Glu
 87 145             150                 155                 160
 89 agc atc cag tgg cgg gac ata gtc agc agt gac ttt ctc agc aac atg      528
 90 Ser Ile Gln Trp Arg Asp Ile Val Ser Ser Asp Phe Leu Ser Asn Met
 91             165                 170                 175
 93 tcg atg gac ttc cag aac cac ctg ggc agc tgc caa aag tgt gat cca      576
 94 Ser Met Asp Phe Gln Asn His Leu Gly Ser Cys Gln Lys Cys Asp Pro
 95             180                 185                 190
 97 agc tgt ccc aat ggg agc tgc tgg ggt gca gga gag gag aac tgc cag      624
 98 Ser Cys Pro Asn Gly Ser Cys Trp Gly Ala Gly Glu Glu Asn Cys Gln
 99         195                 200                 205
101 aaa ctg acc aaa atc atc tgt gcc cag cag tgc tcc ggg cgc tgc cgt      672
102 Lys Leu Thr Lys Ile Ile Cys Ala Gln Gln Cys Ser Gly Arg Cys Arg
103         210                 215                 220
105 ggc aag tcc ccc agt gac tgc tgc cac aac cag tgt gct gca ggc tgc      720
106 Gly Lys Ser Pro Ser Asp Cys Cys His Asn Gln Cys Ala Ala Gly Cys
107 225                 230                 235                 240
109 aca ggc ccc cgg gag agc gac tgc ctg gtc tgc cgc aaa ttc cga gac      768
110 Thr Gly Pro Arg Glu Ser Asp Cys Leu Val Cys Arg Lys Phe Arg Asp
111             245                 250                 255
113 gaa gcc acg tgc aag gac acc tgc ccc cca ctc atg ctc tac aac ccc      816
114 Glu Ala Thr Cys Lys Asp Thr Cys Pro Pro Leu Met Leu Tyr Asn Pro
115             260                 265                 270
117 acc acg tac cag atg gat gtg aac ccc gag ggc aaa tac agc ttt ggt      864
118 Thr Thr Tyr Gln Met Asp Val Asn Pro Glu Gly Lys Tyr Ser Phe Gly
119         275                 280                 285
121 gcc acc tgc gtg aag aag tgt ccc cgt aat tat gtg gtg aca gat cac      912
122 Ala Thr Cys Val Lys Lys Cys Pro Arg Asn Tyr Val Val Thr Asp His
123         290                 295                 300
125 ggc tcg tgc gtc cga gcc tgt ggg gcc gac agc tat gag atg gag gaa      960
126 Gly Ser Cys Val Arg Ala Cys Gly Ala Asp Ser Tyr Glu Met Glu Glu
127 305                 310                 315                 320
129 gac ggc gtc cgc aag tgt aag aag tgc gaa ggg cct tgc cgc aaa gtg     1008
130 Asp Gly Val Arg Lys Cys Lys Lys Cys Glu Gly Pro Cys Arg Lys Val
131             325                 330                 335
133 tgt aac gga ata ggt att ggt gaa ttt aaa gac tca ctc tcc ata aat     1056
134 Cys Asn Gly Ile Gly Ile Gly Glu Phe Lys Asp Ser Leu Ser Ile Asn
135             340                 345                 350
137 gct acg aat att aaa cac ttc aaa aac tgc acc tcc atc agt ggc gat     1104
138 Ala Thr Asn Ile Lys His Phe Lys Asn Cys Thr Ser Ile Ser Gly Asp
139         355                 360                 365
141 ctc cac atc ctg ccg gtg gca ttt agg ggt gac tcc ttc aca cat act     1152
142 Leu His Ile Leu Pro Val Ala Phe Arg Gly Asp Ser Phe Thr His Thr
143         370                 375                 380
145 cct cct ctg gat cca cag gaa ctg gat att ctg aaa acc gta aag gaa     1200
146 Pro Pro Leu Asp Pro Gln Glu Leu Asp Ile Leu Lys Thr Val Lys Glu
```

RAW SEQUENCE LISTING   DATE: 08/31/2004
PATENT APPLICATION: US/10/749,104   TIME: 15:46:39

Input Set : A:\PTO.LM.txt
Output Set: N:\CRF4\08312004\J749104.raw

```
147 385                 390               395              400
149 atc aca ggg ttt ttg ctg att cag gct tgg cct gaa aac agg acg gac   1248
150 Ile Thr Gly Phe Leu Leu Ile Gln Ala Trp Pro Glu Asn Arg Thr Asp
151             405             410             415
153 ctc cat gcc ttt gag aac cta gaa atc ata cgc ggc agg acc aag caa   1296
154 Leu His Ala Phe Glu Asn Leu Glu Ile Ile Arg Gly Arg Thr Lys Gln
155             420             425             430
157 cat ggt cag ttt tct ctt gca gtc gtc agc ctg aac ata aca tcc ttg   1344
158 His Gly Gln Phe Ser Leu Ala Val Val Ser Leu Asn Ile Thr Ser Leu
159             435             440             445
161 gga tta cgc tcc ctc aag gag ata agt gat gga gat gtg ata att tca   1392
162 Gly Leu Arg Ser Leu Lys Glu Ile Ser Asp Gly Asp Val Ile Ile Ser
163         450             455             460
165 gga aac aaa aat ttg tgc tat gca aat aca ata aac tgg aaa aaa ctg   1440
166 Gly Asn Lys Asn Leu Cys Tyr Ala Asn Thr Ile Asn Trp Lys Lys Leu
167 465             470             475             480
169 ttt ggg acc tcc ggt cag aaa acc aaa att ata agc aac aga ggt gaa   1488
170 Phe Gly Thr Ser Gly Gln Lys Thr Lys Ile Ile Ser Asn Arg Gly Glu
171             485             490             495
173 aac agc tgc aag gcc aca ggc cag gtc tgc cat gcc ttg tgc tcc ccc   1536
174 Asn Ser Cys Lys Ala Thr Gly Gln Val Cys His Ala Leu Cys Ser Pro
175             500             505             510
177 gag ggc tgc tgg ggc ccg gag ccc agg gac tgc gtc tct tgc cgg aat   1584
178 Glu Gly Cys Trp Gly Pro Glu Pro Arg Asp Cys Val Ser Cys Arg Asn
179             515             520             525
181 gtc agc cga ggc agg gaa tgc gtg gac aag tgc aac ctt ctg gag ggt   1632
182 Val Ser Arg Gly Arg Glu Cys Val Asp Lys Cys Asn Leu Leu Glu Gly
183         530             535             540
185 gag cca agg gag ttt gtg gag aac tct gag tgc ata cag tgc cac cca   1680
186 Glu Pro Arg Glu Phe Val Glu Asn Ser Glu Cys Ile Gln Cys His Pro
187 545             550             555             560
189 gag tgc ctg cct cag gcc atg aac atc acc tgc aca gga cgg gga cca   1728
190 Glu Cys Leu Pro Gln Ala Met Asn Ile Thr Cys Thr Gly Arg Gly Pro
191             565             570             575
193 gac aac tgt atc cag tgt gcc cac tac att gac ggc ccc cac tgc gtc   1776
194 Asp Asn Cys Ile Gln Cys Ala His Tyr Ile Asp Gly Pro His Cys Val
195             580             585             590
197 aag acc tgc ccg gca gga gtc atg gga gaa aac aac acc ctg gtc tgg   1824
198 Lys Thr Cys Pro Ala Gly Val Met Gly Glu Asn Asn Thr Leu Val Trp
199         595             600             605
201 aag tac gca gac gcc ggc cat gtg tgc cac ctg tgc cat cca aac tgc   1872
202 Lys Tyr Ala Asp Ala Gly His Val Cys His Leu Cys His Pro Asn Cys
203     610             615             620
205 acc tac gga tgc act ggg cca ggt ctt gaa ggc tgt cca acg aat ggg   1920
206 Thr Tyr Gly Cys Thr Gly Pro Gly Leu Glu Gly Cys Pro Thr Asn Gly
207 625             630             635             640
209 cct aag atc ccg tcc atc gcc act ggg atg gtg ggg gcc ctc ctc ttg   1968
210 Pro Lys Ile Pro Ser Ile Ala Thr Gly Met Val Gly Ala Leu Leu Leu
211             645             650             655
```

RAW SEQUENCE LISTING   DATE: 08/31/2004
PATENT APPLICATION: US/10/749,104   TIME: 15:46:39

Input Set : A:\PTO.LM.txt
Output Set: N:\CRF4\08312004\J749104.raw

```
213 ctg ctg gtg gtg gcc ctg ggg atc ggc ctc ttc atg cga agg cgc cac     2016
214 Leu Leu Val Val Ala Leu Gly Ile Gly Leu Phe Met Arg Arg Arg His
215         660                 665                 670
217 atc gtt cgg aag cgc acg ctg cgg agg ctg ctg cag gag agg gag ctt     2064
218 Ile Val Arg Lys Arg Thr Leu Arg Arg Leu Leu Gln Glu Arg Glu Leu
219         675                 680                 685
221 gtg gag cct ctt aca ccc agt gga gaa gct ccc aac caa gct ctc ttg     2112
222 Val Glu Pro Leu Thr Pro Ser Gly Glu Ala Pro Asn Gln Ala Leu Leu
223         690                 695                 700
225 agg atc ttg aag gaa act gaa ttc aaa aag atc aaa gtg ctg ggc tcc     2160
226 Arg Ile Leu Lys Glu Thr Glu Phe Lys Lys Ile Lys Val Leu Gly Ser
227 705                 710                 715                 720
229 ggt gcg ttc ggc acg gtg tat aag gga ctc tgg atc cca gaa ggt gag     2208
230 Gly Ala Phe Gly Thr Val Tyr Lys Gly Leu Trp Ile Pro Glu Gly Glu
231             725                 730                 735
233 aaa gtt aaa att ccc gtc gct atc aag gaa tta aga gaa gca aca tct     2256
234 Lys Val Lys Ile Pro Val Ala Ile Lys Glu Leu Arg Glu Ala Thr Ser
235             740                 745                 750
237 ccg aaa gcc aac aag gaa atc ctc gat gaa gcc tac gtg atg gcc agc     2304
238 Pro Lys Ala Asn Lys Glu Ile Leu Asp Glu Ala Tyr Val Met Ala Ser
239             755                 760                 765
241 gtg gac aac ccc cac gtg tgc cgc ctg ctg ggc atc tgc ctc acc tcc     2352
242 Val Asp Asn Pro His Val Cys Arg Leu Leu Gly Ile Cys Leu Thr Ser
243         770                 775                 780
245 acc gtg cag ctc atc acg cag ctc atg ccc ttc ggc tgc ctc ctg gac     2400
246 Thr Val Gln Leu Ile Thr Gln Leu Met Pro Phe Gly Cys Leu Leu Asp
247 785                 790                 795                 800
249 tat gtc cgg gaa cac aaa gac aat att ggc tcc cag tac ctg ctc aac     2448
250 Tyr Val Arg Glu His Lys Asp Asn Ile Gly Ser Gln Tyr Leu Leu Asn
251             805                 810                 815
253 tgg tgt gtg cag atc gca aag ggc atg aac tac ttg gag gac cgt cgc     2496
254 Trp Cys Val Gln Ile Ala Lys Gly Met Asn Tyr Leu Glu Asp Arg Arg
255             820                 825                 830
257 ttg gtg cac cgc gac ctg gca gcc agg aac gta ctg gtg aaa aca ccg     2544
258 Leu Val His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Lys Thr Pro
259         835                 840                 845
261 cag cat gtc aag atc aca gat ttt ggg ctg gcc aaa ctg ctg ggt gcg     2592
262 Gln His Val Lys Ile Thr Asp Phe Gly Leu Ala Lys Leu Leu Gly Ala
263         850                 855                 860
265 gaa gag aaa gaa tac cat gca gaa gga ggc aaa gtg cct atc aag tgg     2640
266 Glu Glu Lys Glu Tyr His Ala Glu Gly Gly Lys Val Pro Ile Lys Trp
267 865                 870                 875                 880
269 atg gca ttg gaa tca att tta cac aga atc tat acc cac cag agt gat     2688
270 Met Ala Leu Glu Ser Ile Leu His Arg Ile Tyr Thr His Gln Ser Asp
271             885                 890                 895
273 gtc tgg agc tac ggg gtg acc gtt tgg gag ttg atg acc ttt gga tcc     2736
274 Val Trp Ser Tyr Gly Val Thr Val Trp Glu Leu Met Thr Phe Gly Ser
275             900                 905                 910
277 aag cca tat gac gga atc cct gcc agc gag atc tcc tcc atc ctg gag     2784
```

```
278 Lys Pro Tyr Asp Gly Ile Pro Ala Ser Glu Ile Ser Ser Ile Leu Glu
279         915                 920                 925
281 aaa gga gaa cgc ctc cct cag cca ccc ata tgt acc atc gat gtc tac    2832
282 Lys Gly Glu Arg Leu Pro Gln Pro Pro Ile Cys Thr Ile Asp Val Tyr
283         930                 935                 940
285 atg atc atg gtc aag tgc tgg atg ata gac gca gat agt cgc cca aag    2880
286 Met Ile Met Val Lys Cys Trp Met Ile Asp Ala Asp Ser Arg Pro Lys
287 945                 950                 955                 960
289 ttc cgt gag ttg atc atc gaa ttc tcc aaa atg gcc cga gac ccc cag    2928
290 Phe Arg Glu Leu Ile Ile Glu Phe Ser Lys Met Ala Arg Asp Pro Gln
291                     965                 970                 975
293 cgc tac ctt gtc att cag ggg gat gaa aga atg cat ttg cca agt cct    2976
294 Arg Tyr Leu Val Ile Gln Gly Asp Glu Arg Met His Leu Pro Ser Pro
295                 980                 985                 990
297 aca gac tcc aac ttc tac cgt gcc  ctg atg gat gaa gaa  gac atg gac    3024
298 Thr Asp Ser Asn Phe Tyr Arg Ala  Leu Met Asp Glu Glu  Asp Met Asp
299         995                 1000                1005
301 gac gtg  gtg gat gcc gac gag  tac ctc atc cca cag  cag ggc ttc    3069
302 Asp Val  Val Asp Ala Asp Glu  Tyr Leu Ile Pro Gln  Gln Gly Phe
303     1010                1015                1020
305 ttc agc  agc ccc tcc acg tca  cgg act ccc ctc ctg  agc tct ctg    3114
306 Phe Ser  Ser Pro Ser Thr Ser  Arg Thr Pro Leu Leu  Ser Ser Leu
307     1025                1030                1035
309 agt gca  acc agc aac aat tcc  acc gtg gct tgc att  gat aga aat    3159
310 Ser Ala  Thr Ser Asn Asn Ser  Thr Val Ala Cys Ile  Asp Arg Asn
311     1040                1045                1050
313 ggg ctg  caa agc tgt ccc atc  aag gaa gac agc ttc  ttg cag cga    3204
314 Gly Leu  Gln Ser Cys Pro Ile  Lys Glu Asp Ser Phe  Leu Gln Arg
315     1055                1060                1065
317 tac agc  tca gac ccc aca ggc  gcc ttg act gag gac  agc ata gac    3249
318 Tyr Ser  Ser Asp Pro Thr Gly  Ala Leu Thr Glu Asp  Ser Ile Asp
319     1070                1075                1080
321 gac acc  ttc ctc cca gtg cct  gaa tac ata aac cag  tcc gtt ccc    3294
322 Asp Thr  Phe Leu Pro Val Pro  Glu Tyr Ile Asn Gln  Ser Val Pro
323     1085                1090                1095
325 aaa agg  ccc gct ggc tct gtg  cag aat cct gtc tat  cac aat cag    3339
326 Lys Arg  Pro Ala Gly Ser Val  Gln Asn Pro Val Tyr  His Asn Gln
327     1100                1105                1110
329 cct ctg  aac ccc gcg ccc agc  aga gac cca cac tac  cag gac ccc    3384
330 Pro Leu  Asn Pro Ala Pro Ser  Arg Asp Pro His Tyr  Gln Asp Pro
331     1115                1120                1125
333 cac agc  act gca gtg ggc aac  ccc gag tat ctc aac  act gtc cag    3429
334 His Ser  Thr Ala Val Gly Asn  Pro Glu Tyr Leu Asn  Thr Val Gln
335     1130                1135                1140
337 ccc acc  tgt gtc aac agc aca  ttc gac agc cct gcc  cac tgg gcc    3474
338 Pro Thr  Cys Val Asn Ser Thr  Phe Asp Ser Pro Ala  His Trp Ala
339     1145                1150                1155
341 cag aaa  ggc agc cac caa att  agc ctg gac aac cct  gac tac cag    3519
342 Gln Lys  Gly Ser His Gln Ile  Ser Leu Asp Asn Pro  Asp Tyr Gln
```

VERIFICATION SUMMARY   DATE: 08/31/2004
PATENT APPLICATION: **US/10/749,104**   TIME: 15:46:40

Input Set : **A:\PTO.LM.txt**
Output Set: **N:\CRF4\08312004\J749104.raw**

L:17 M:270 C: Current Application Number differs, Replaced Current Application No
L:17 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:48 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:1,Line#:44
L:698 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:3,Line#:694
L:1068 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:5,Line#:1064
L:1462 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:7,Line#:1458
L:1816 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:9,Line#:1812
L:2058 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:11,Line#:2054
L:2564 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:13,Line#:2560
L:3214 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:15,Line#:3210
L:3576 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:17,Line#:3572
L:3938 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:19,Line#:3934
L:4300 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:21,Line#:4296
L:5122 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:24,Line#:5118
L:5794 M:258 W: Mandatory Feature missing, <223> Blank for SEQ#:26,Line#:5790